

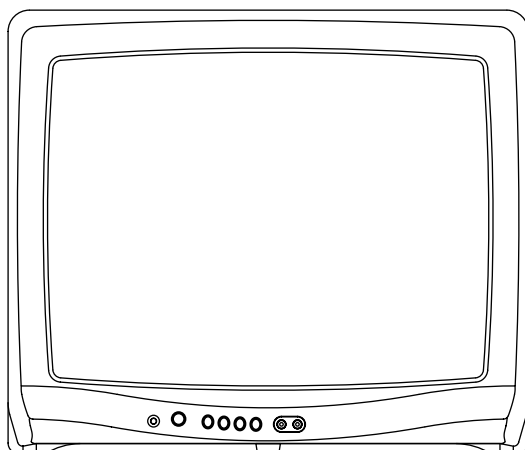
# DURABRAND

## DBTV1902

# SERVICE MANUAL

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### COLOR TELEVISION RECEIVER



**SUPPLEMENT  
MFR'S VERSION B**

This SUPPLEMENT must be used together SERVICE MANUAL for DBTV1901 Series B.  
All other test and repair procedures are as shown in the ORIGINAL MANUAL.  
Please file this SUPPLEMENT with the ORIGINAL VERSIONS.

## MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	DBTV1901 Series B		DBTV1902	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
101	A3L211C720	CABINET FRONT ASS'Y	A3L217C720	CABINET FRONT ASS'Y
108	722552A019	SHEET,RATING	722552A022	SHEET,RATING
---			7230007398	SECURITY TAG
---	793WCDB237	GIFT BOX	793WCDB366	GIFT BOX
---	JB5K0200	POLYBAG,INSTRUCTION	JB5U0200	POLYBAG,INSTRUCTION
---	J3L21101	INSTRUCTION BOOK	J3L21701	INSTRUCTION BOOK
---	J3L10502	WARRANTY SHEET	J5A34002	WARRANTY SHEET
---	A3L211C975	INSTRUCTION BOOK KIT	A3L217C975	INSTRUCTION BOOK KIT

## WHEN REPLACING EEPROM (MEMORY) IC

REF. NO.	DBTV1901 Series B	DBTV1902
	DATA	DATA
08	01	00

SPEC.NO.	M3L2-17C
O/R NO.	W253015

## SERVICING NOTICES ON CHECKING

### 1. KEEP THE NOTICES


As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

### 2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

### 3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

### 4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

### 5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

### 6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

### 7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

#### (INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

#### **[Note 1]**

If you have not the 500V insulation resistance meter, use a Tester.

#### **[Note 2]**

External exposure metal: Antenna terminal

## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

#### 1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

#### 2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

## IMPORTANT

Inferior silicon grease can damage IC's and transistors.

When replacing an IC's or transistors, use only specified silicon grease (YG6260M).

Remove all old silicon before applying new silicon.

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## GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	19 inch / 480.0mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G/0.18G
			Color System	NTSC
			Speaker	1 Speaker
			Position	Bottom
			Size	3 Inch
			Impedance	8 ohm
			Sound Output	MAX 1.5 W 10%(Typical) 1.0 W
			NTSC3.58+4.43 /PAL60Hz	No
G-2	Tuning System	Broadcasting System		US System M
		Tuner and Receive CH	System	1 Tuner
			Destination	Others
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 ohm
			CH Coverage	2 - 69, 4A, A-5 - A-1, A - I, J - W, W+1 - W+84
		Intermediate Frequency	Picture(FP)	45.75MHz
			Sound(FS)	41.25MHz
			FP-FS	4.50MHz
			Preset CH	No
			Stereo/Dual TV Sound	No
	Tuner Sound Muting	Yes		
G-3	Power	Power Source	AC	120V AC 60Hz
			DC	
		Power Consumption	at AC	<u>73 W at AC 120 V 60 Hz</u> <u>5 W at AC 120 V 60 Hz</u> <u>-- kWh/Year</u>
			Stand by (at AC) Per Year	
		Protector	Power Fuse	Yes
G-4	Regulation	Safety		UL / CSA
		Radiation		FCC / IC
		X-Radiation		DHHS / HWC
G-5	Temperature	Operation		+5°C ~ +40°C
		Storage		-20°C ~ +60°C
G-6	Operating Humidity			Less then 80% RH
G-7	On Screen Display	Menu		Yes
		Menu Type		Character
		Picture		Yes
			Contrast	Yes
			Brightness	Yes
			Color	Yes
			Tint	Yes
			Sharpness	Yes
			Audio	No
			Bass	No
			Treble	No
			Balance	No
			BBE On/Off	No
			Stable Sound On/Off	No
			CH Set Up	Yes
			TV/CATV	Yes
			Auto CH Memory	Yes
			Add/ Delete	Yes
			Language	Yes
			V-chip	Yes
			CH Label	No
	Favorite CH	No		
	Color Stream DVD/DTV	No		
	Control Level	Yes		
	Volume	Yes		
	Brightness	Yes		

# GENERAL SPECIFICATIONS

		Contrast	Yes
		Color	Yes
		Tint (NTSC Only)	Yes
		Sharpness	Yes
		Tuning	No
		Bass	No
		Treble	No
		Balance	No
		Back Light	No
		Stereo,Audio Output,SAP	No
		Video	Yes
		Color Stream	No
		Channel(TV/Cable)	Yes
		CH Label	No
		Sleep Timer	Yes
		Sound Mute	Yes
		V-chip Rating	Yes
<b>G-8</b>	<b>OSD Language</b>	OSD Language Setting	English French Spanish English
<b>G-9</b>	<b>Clock and Timer</b>	Sleep Timer Max Time Step	120 Min 10 Min
		On/Off Timer Program(On Tim / Off Tim)	No
		Wake Up Timer	No
		Timer Back-up (at Power Off Mode) more than	-- Min Sec
<b>G-10</b>	<b>Remote Control</b>	Unit	RC-DW
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	86-05 h
		Power Source Voltage(D.C) UM size x pcs	3V UM-4 x 2 pcs
		Total Keys	27 Keys
		Keys Power	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		100	No
		CH Up	Yes
		CH Down	Yes
		Volume Up	Yes
		Volume Down	Yes
		TV/Caption/Text	Yes
		CH1/CH2	Yes
		TV/Video(TV/AV)	Yes
		CH RTN/CH ENT(Quick View)	Yes
		Sleep	Yes
		RE Call(Call)	Yes
		Reset	Yes
		Menu	Yes
		Enter	Yes
		Mute	Yes
		Exit	No
		MTS(Audio Select)	No
		Set +	Yes
		Set -	Yes
		Multi Brand Keys CH Up(VCR)	No
		CH Down(VCR)	No
		Pause/Still	No

## GENERAL SPECIFICATIONS

		TV/VCR(VCR)	No
		Code	No
		FF	No
		Rew	No
		Rec	No
		Play	No
		Stop	No
		TV	No
		VCR	No
		Cable	No
<b>G-11</b>	<b>Features</b>	Auto Degauss	Yes
		Auto Shut Off	Yes
		Canal+	No
		CATV	Yes
		Anti-theft	No
		Rental	No
		Memory(Last CH)	Yes
		Memory(Last Volume)	Yes
		V-Chip	Yes
		Type	<u>USA,ORION Type</u>
		BBE	No
		Auto Search	No
		CH Allocation	No
		SAP	No
		Channel Lock	No
		Just Clock Function	No
		Game Position	No
		CH Label	No
		VM Circuit	No
		Full OSD	No
		Premiere	No
		Comb Filter	No
			<u>Lines</u>
		Auto CH Memory	Yes
		Hotel Lock	No
		Closed Caption	Yes
		Stable Sound	No
		Energy Star	No
		Favorite CH	No
<b>G-12</b>	<b>Accessories</b>	Owner's Manual Language w/Guarantee Card	English /French No
		Remote Control Unit	Yes
		Rod Antenna	No
		Poles Terminal	
		Loop Antenna Terminal	No
		U/V Mixer	No
		DC Car Cord (Center+)	No
		Guarantee Card	Yes
		Warning Sheet	No
		Circuit Diagram	No
		Antenna Change Plug	No
		Service Facility List	No
		Important Safeguard	No
		Dew/AHC Caution Sheet	No
		AC Plug Adapter	No
		Quick Set-up Sheet	No
		Battery	No
		UM size x pcs OEM Brand	No
		AC Cord	No
		AV Cord (2Pin-1Pin)	No
		Registration Card	No

## GENERAL SPECIFICATIONS

		PTB Sheet	No			
		300 ohm to 75 ohm Antenna Adapter	No			
<b>G-13</b>	<b>Interface</b>	Switch	Front	Power	Yes	
				System Select	No	
				Main Power SW	No	
				Sub Power	No	
				Channel Up/Reset	Yes	
				Channel Down/Enter	Yes	
				Volume Up/Set Up	Yes	
				Volume Down/Set Down	Yes	
				MENU=Volume Up+Volume Down	Yes	
				Rear	AC/DC	No
				TV/CATV Selector	No	
				Degauss	No	
				Main Power SW	No	
			Indicator	Power	No	
				Stand-by	No	
				On Timer	No	
			Terminals	Front	Video Input	RCA
					Audio Input	RCA x 1
					Other Terminal	No
				Rear	Video Input(Rear1)	No
					Video Input(Rear2)	No
					Audio Input(Rear1)	No
					Audio Input(Rear2)	No
					Video Output	No
					Audio Output	No
					Euro Scart	No
					Color Stream	No
					Diversity	No
					Ext Speaker	No
					DC Jack 12V(Center +)	No
					VHF/UHF Antenna Input	F Type
					AC Outlet	No
		<b>G-14</b>	<b>Set Size</b>	Approx.	W x D x H (mm)	<u>488 x 465 x 416</u>
<b>G-15</b>	<b>Weight</b>	Net (Approx.)		<u>17.5kg (38.6 lbs)</u>		
		Gross (Approx.)		<u>20.0kg (44.1lbs)</u>		
<b>G-16</b>	<b>Carton</b>	Master Carton		No		
		Content		---- Sets		
		Material		-- /--		
		Dimensions W x D x H(mm)		-- x -- x --		
		Description of Origin		No		
		Gift Box		Yes		
		Material		Double Full Color Carton W/Photo		
		Dimensions W x D x H(mm)		<u>546 x 526 x 472</u>		
		Design		As per Buyer's		
		Description of Origin		Yes		
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces		
Height (cm)		46				
Container Stuffing		<u>436</u> Sets/40' container				
<b>G-17</b>	<b>Cabinet Material</b>	Cabinet Front		PS 94V0 DECABROM		
		Cabinet Rear		PS 94V0 DECABROM		



# DISASSEMBLY INSTRUCTIONS

## 1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- \* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- \* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

### REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. (Refer to Fig. 1-1.)

Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated screwdriver, touch the support of the Anode with the tip of the screwdriver.

A cracking noise will be heard as the voltage is discharged.

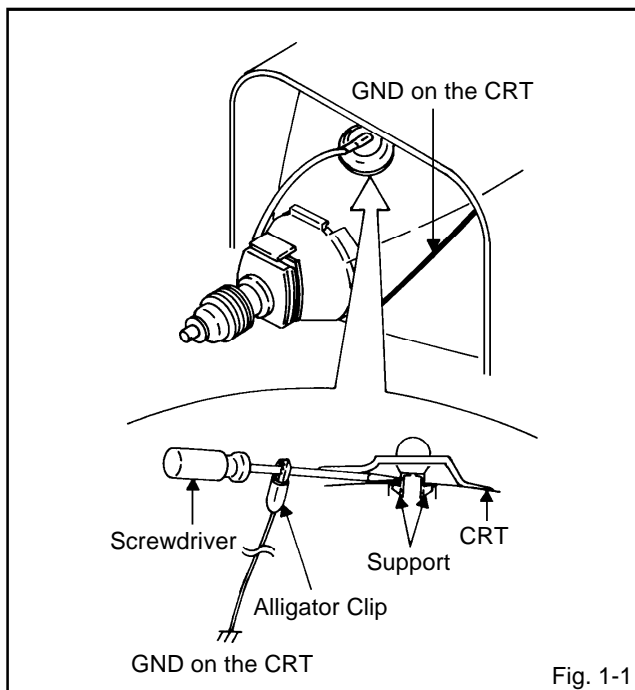


Fig. 1-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. (Refer to Fig. 1-2.)

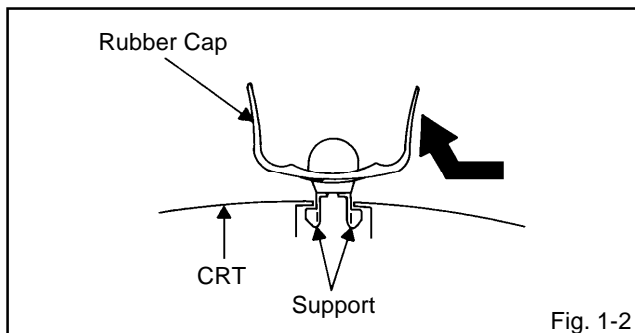


Fig. 1-2

3. After one side is removed, pull in the opposite direction to remove the other.

### NOTE

Take care not to damage the Rubber Cap.

### INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. (Refer to Fig. 1-3.)

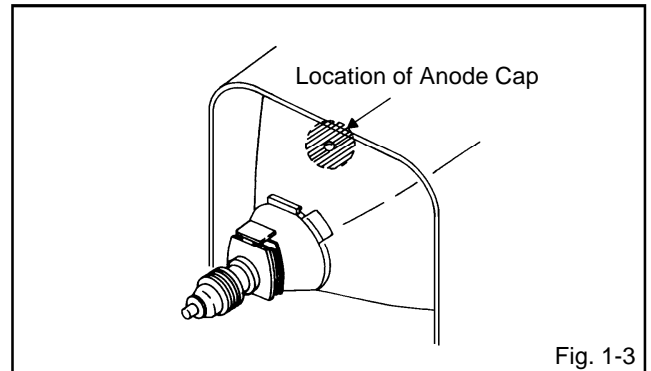


Fig. 1-3

### NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. (Refer to Fig. 1-4.)

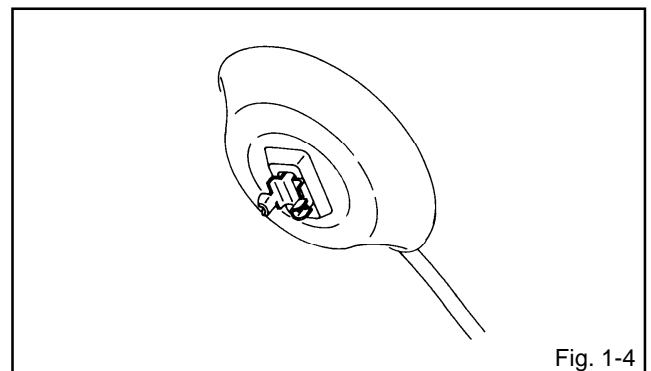


Fig. 1-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in Fig. 1-5.

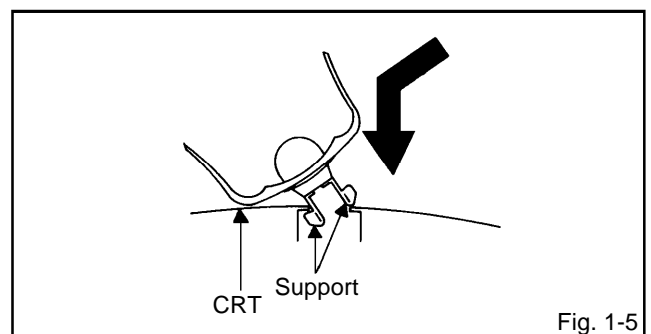


Fig. 1-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

# DISASSEMBLY INSTRUCTIONS

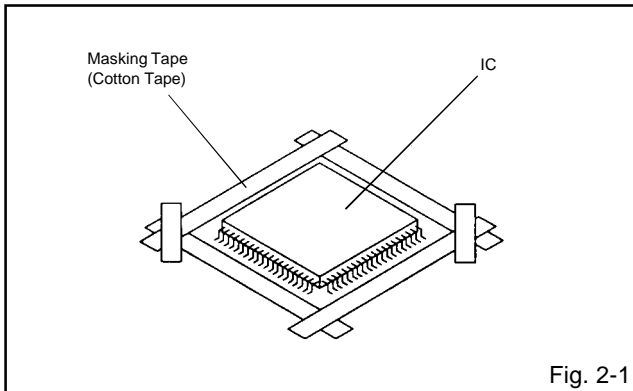
## 2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

### REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 2-1.)

#### NOTE

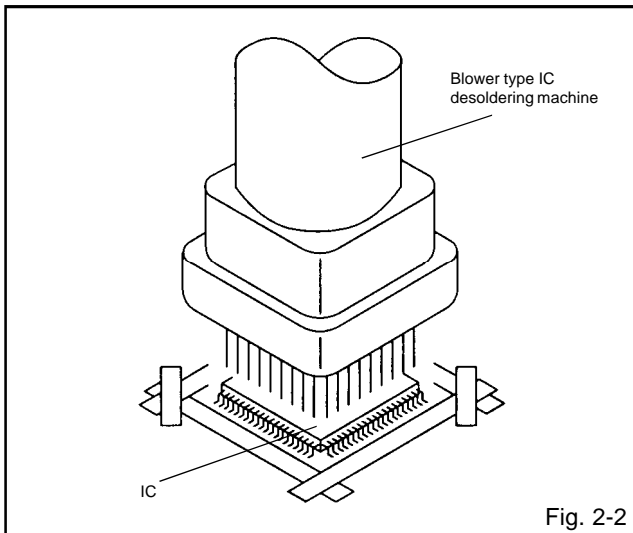
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 2-2.)

#### NOTE

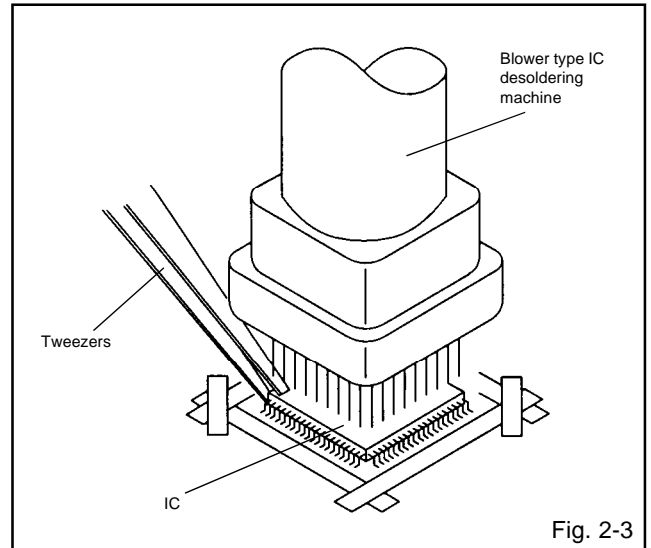
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 2-3.)

#### NOTE

Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

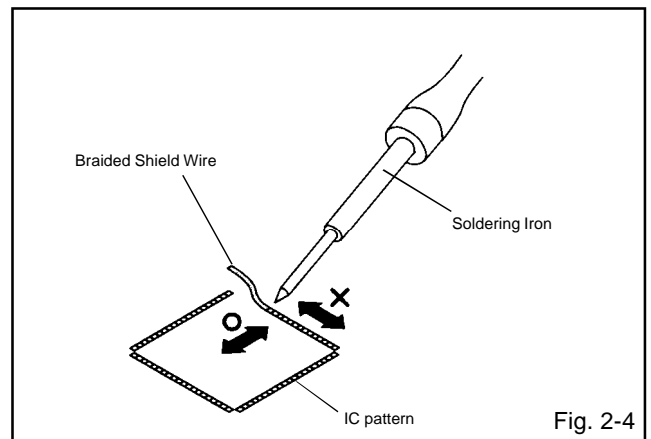


4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 2-4.)

#### NOTE

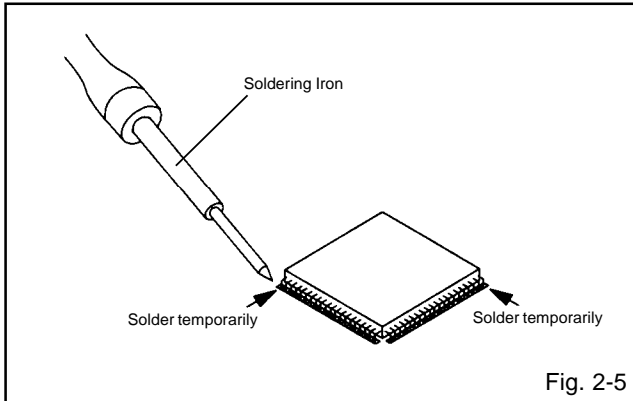
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



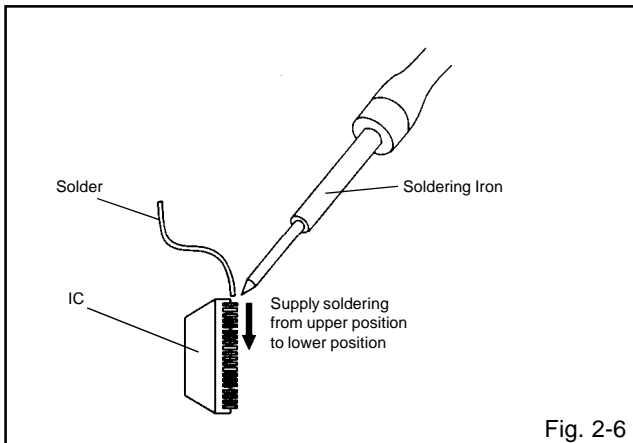
# DISASSEMBLY INSTRUCTIONS

## INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 2-5.)**



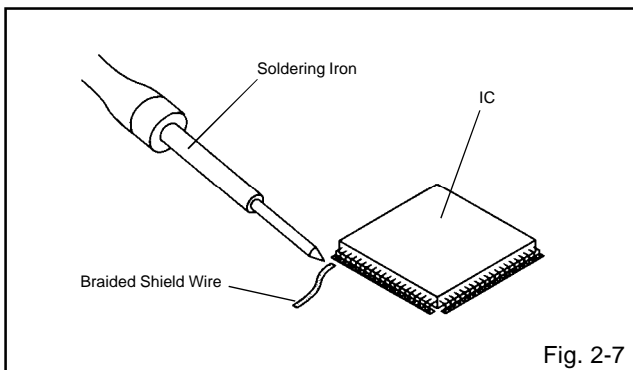
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**



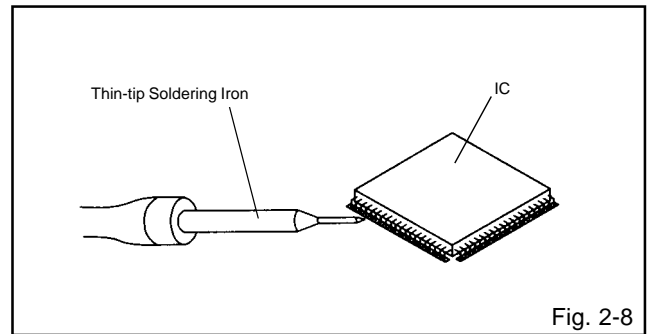
3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

### NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 2-8.)**



5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass. Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

### NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

## SERVICE MODE LIST

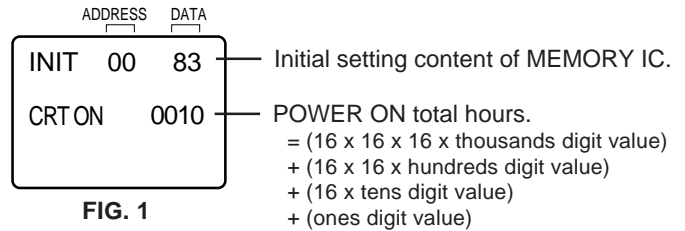
This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily. To enter the Service Mode, press both set key and remote control key for more than 1 second.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, the POWER ON total hours, and PLAY/REC total hours.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED".  Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

### CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.



### WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	08	20	99	02	09	B3	24	19	01	00	44	05	00	D5	FF	A5

**Table 1**

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the SET + or - keys on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using SET + or - until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. The unit will now have the correct DATA for the new MEMORY IC.

# ELECTRICAL ADJUSTMENTS

## 1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

### CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.  
Inferior silicon grease can damage IC's and transistors. When
- When you exchange IC and Transistor for a heat sink, apply the silicon grease (**YG6260M**) on the contact section of the heat sink, Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Synchro Scope
2. Digital Voltmeter

### On-Screen Display Adjustment

1. In the condition of NO indication on the screen.  
Press the VOL. DOWN button on the set and the Channel button (**9**) on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

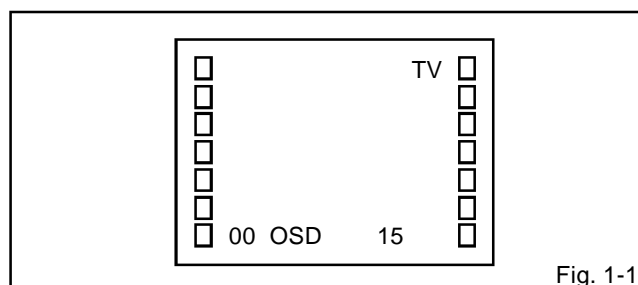


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button (**0-9**) on the remote control to select the options shown in **Fig. 1-2**.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	OSD H	16	CONTRAST CENT
01	CUT OFF	17	CONTRAST MAX
02	RF DELAY	18	CONTRAST MIN
03	VIF VCO	19	COLOR CENT
04	H.VCO	20	COLOR MAX
05	H.PHASE	21	COLOR MIN
06	V.SIZE	22	TINT
07	V.SHIFT	23	SHARPNESS
08	R.DRIVE	24	FM LEVEL
09	B.DRIVE	25	LEVEL
10	R.BIAS	26	SEPARATION 1
11	G.BIAS	27	SEPARATION 2
12	B.BIAS	28	TEST MONO
13	BRIGHT CENT	29	TEST STEREO
14	BRIGHT MEX	30	X-RAY TEST
15	BRIGHT MIN		

Fig. 1-2

## 2. BASIC ADJUSTMENTS

### 2-1: RF AGC DELAY

1. Place the set with Aging Test for more than 15 minutes.
2. Receive an 63dB monoscope pattern.
3. Connect the digital voltmeter to **W043**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**02**) on the remote control to select "RF.AGC".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is  $2.50 \pm 0.05V$ .

### 2-2: CUT OFF

1. Adjust the unit to the following settings.  
R.DRIVE=10, B.DRIVE=10, R.BIAS=64, G.BIAS=64, B.BIAS=64, BRIGHTNESS=125, CONTRAST=60.
2. Place the set with Aging Test for more than 15 minutes.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**01**) on the remote control to select "CUT OFF".
4. Adjust the **Screen Volume** until a dim raster is obtained.

### 2-3: WHITE BALANCE

**NOTE:** Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the adjustment control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**10**) on the remote control to select "R.BIAS".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R.BIAS.
6. Press the CH. UP/DOWN button on the remote control to select the "R.DRIVE", "B.DRIVE", "G.BIAS" or "B.BIAS".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R.DRIVE, B.DRIVE, G.BIAS or B.BIAS.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

### 2-4: SUB TINT/SUB COLOR

1. Receive the color bar pattern.
2. Connect the oscilloscope to **TP023**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**22**) on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line (**Refer to Fig. 2-1**)
5. Connect the oscilloscope to **TP022**.
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**19**) on the remote control to select "COL.CENT".
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 120% of the white level. (**Refer to Fig. 2-2**)
8. Receive the color bar pattern. (Audio Video Input)
9. Press the TV/AV button on the remote to set to the AV mode. Then perform the above adjustment 2~7.

# ELECTRICAL ADJUSTMENTS

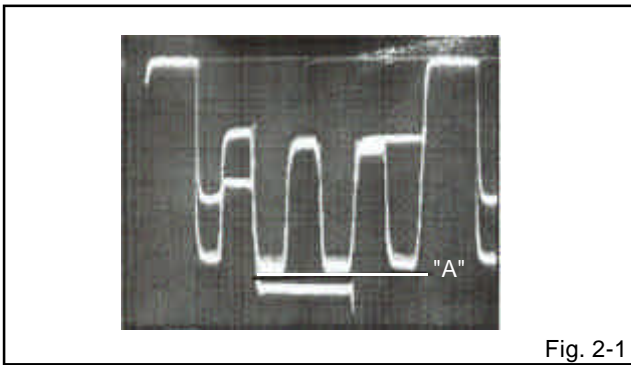


Fig. 2-1

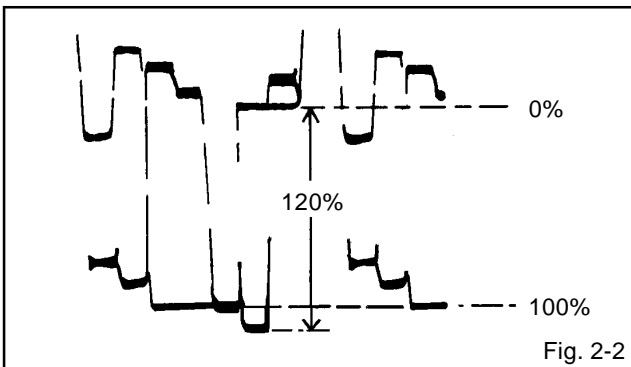


Fig. 2-2

## 2-5: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (05) on the remote control to select "H.PHAS".
3. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

## 2-6: VERTICAL SIZE

1. Receive the crosshatch signal from the Pattern Generator.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (06) on the remote control to select "V.SIZE".
3. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes  $10 \pm 2\%$ .
4. Receive a broadcast and check if the picture is normal.

## 2-7: VERTICAL SHIFT

1. Receive the crosshatch signal from the Pattern Generator.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (07) on the remote control to select "V.SFT".
3. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.

## 2-8: OSD HORIZONTAL

1. Activate the adjustment mode display of Fig. 1-1.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. (Refer to Fig. 2-3)

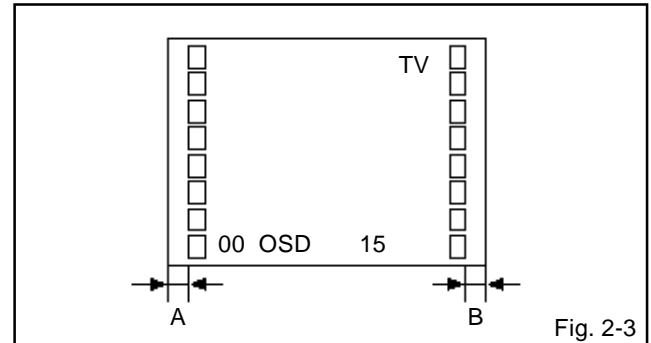


Fig. 2-3

## 2-9: VIF VCO

1. Place the set with Aging Test for more than 10 minutes.
2. Receive an 80dB monoscope pattern.
3. Connect the digital voltmeter between the pin 5 of CP601 and the GND.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (03) on the remote control to select "V.VCO".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.5V.

## 2-10: SUB BRIGHTNESS

1. Receive an 70dB monoscope pattern.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (13) on the remote control to select "BRI.CENT".
3. Press the VOL. UP/DOWN button on the remote control until the screen begin to shine.
4. Press the TV/AV button on the remote to set to the AV mode. Then perform the above adjustment 2, 3.

## 2-11: SUB CONTRAST MANUAL

1. Receive an 70dB the color bar pattern.
2. Activate the adjustment mode display of Fig. 1-1 press the channel button (17) on the remote control to select "CONT.MAX".
3. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "66".
4. Press the TV/AV button on the remote to set to the AV mode. Then perform the above adjustment 2, 3.

## 2-12: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the Focus Volume until picture is distinct.

## ELECTRICAL ADJUSTMENTS

### 2-13: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
04	H VCO	04	04
14	BRIGHT MAX	183	183
15	BRIGHT MIN	60	60
16	CONT CENT	30	30
18	CONT MIN	12	12
20	COLOR MAX	70	70
21	COLOR MIN	01	01
23	SHARPNESS	40	40
24	FM LEVEL	00	00
25	LEVEL	00	00
26	SEPARATION 1	00	00
27	SEPARATION 2	00	00
28	TEST MONO	00	00
29	TEST STERO	00	00

# ELECTRICAL ADJUSTMENTS

## 3. PURITY AND CONVERGENCE ADJUSTMENTS

### NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

### 3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**  
If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

### 3-2: PURITY

#### NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.  
Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

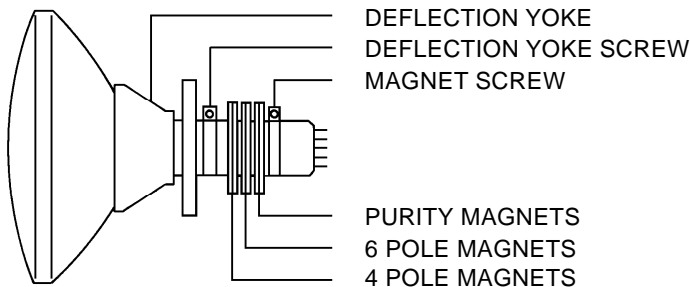


Fig. 3-1

### 3-3: STATIC CONVERGENCE

#### NOTE

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

### 3-4: DYNAMIC CONVERGENCE

#### NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**

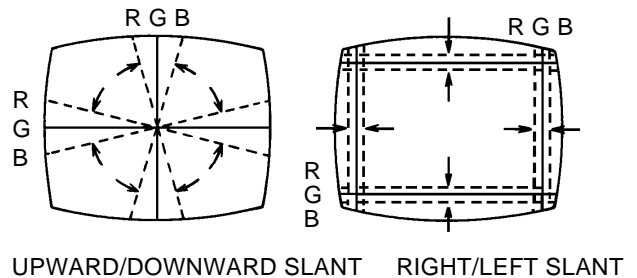


Fig. 3-2-a

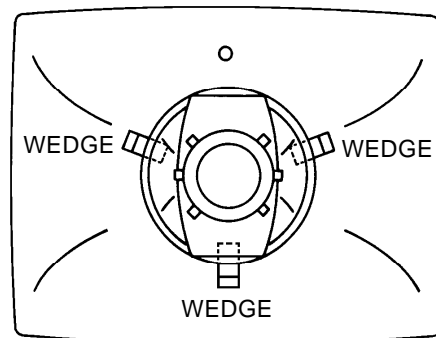
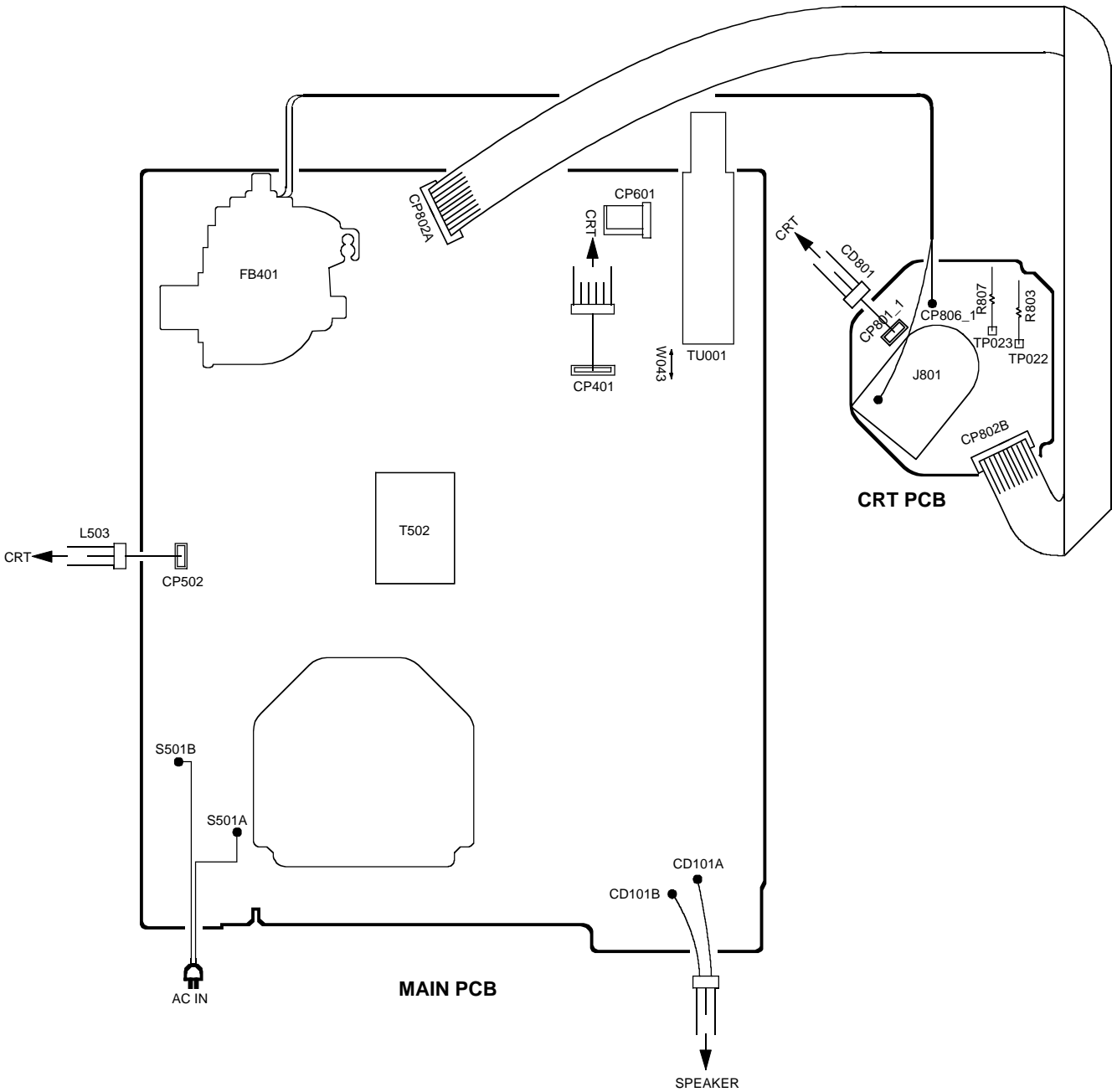


Fig. 3-2-b

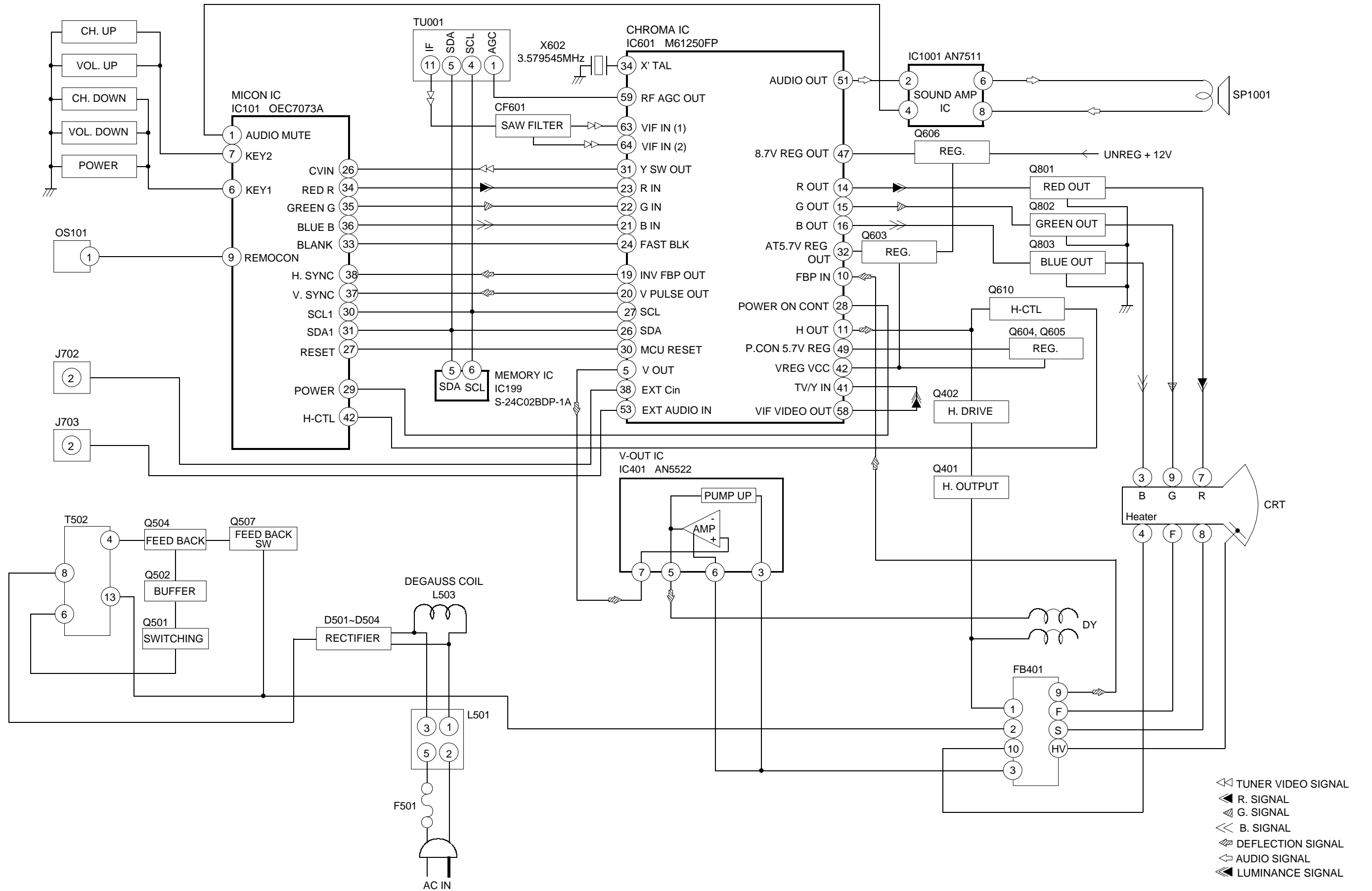


# ELECTRICAL ADJUSTMENTS

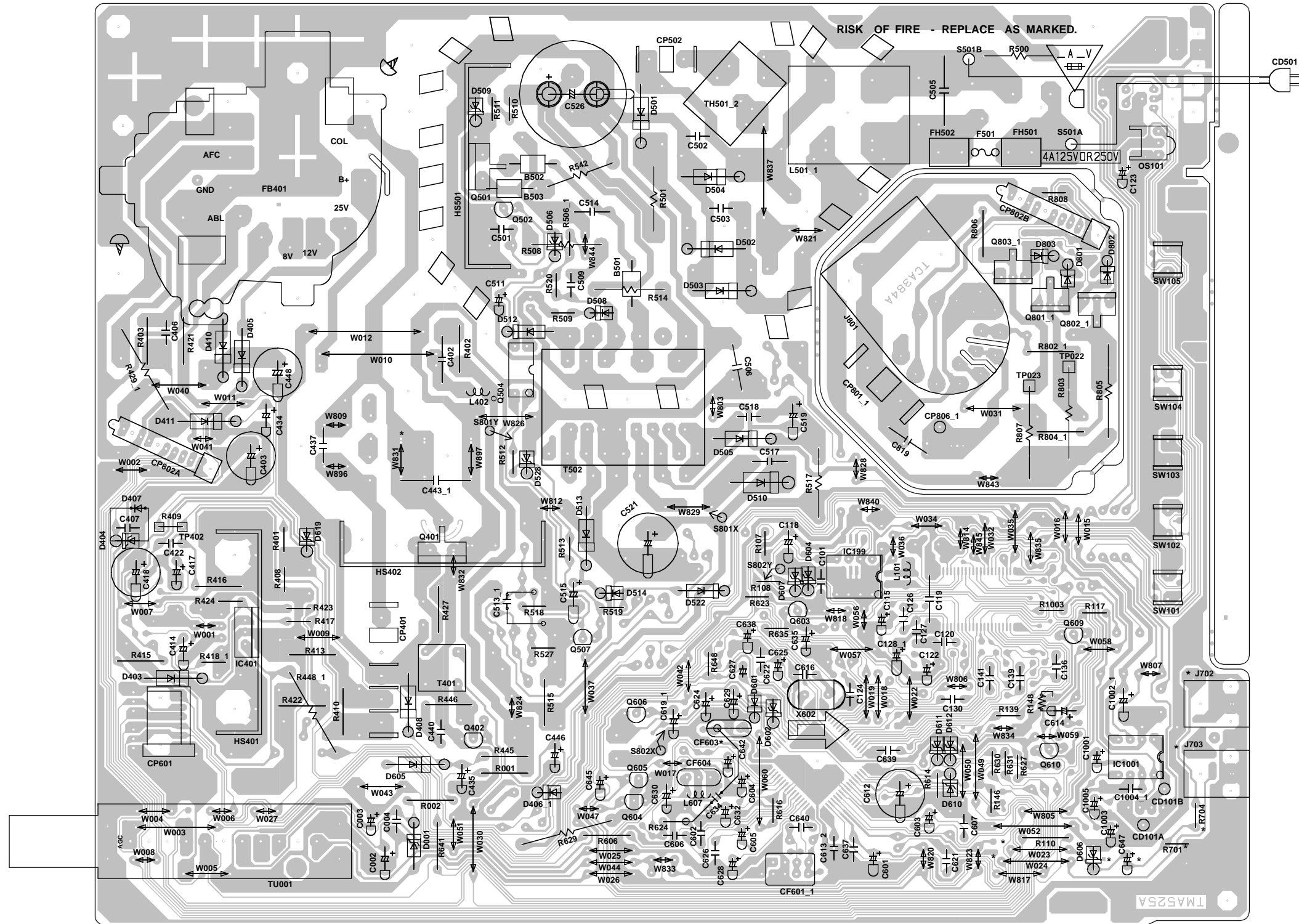
## 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



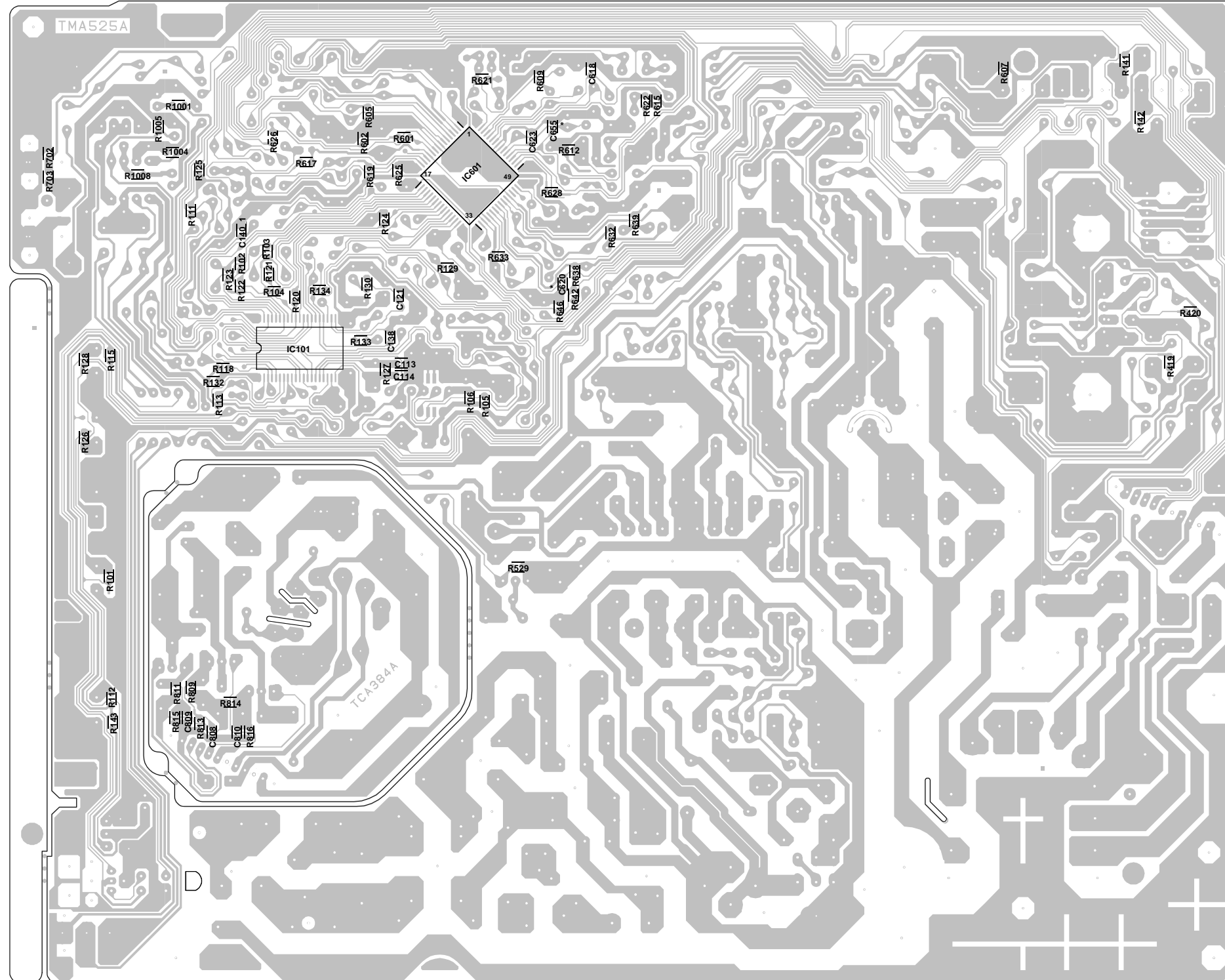
# BLOCK DIAGRAM



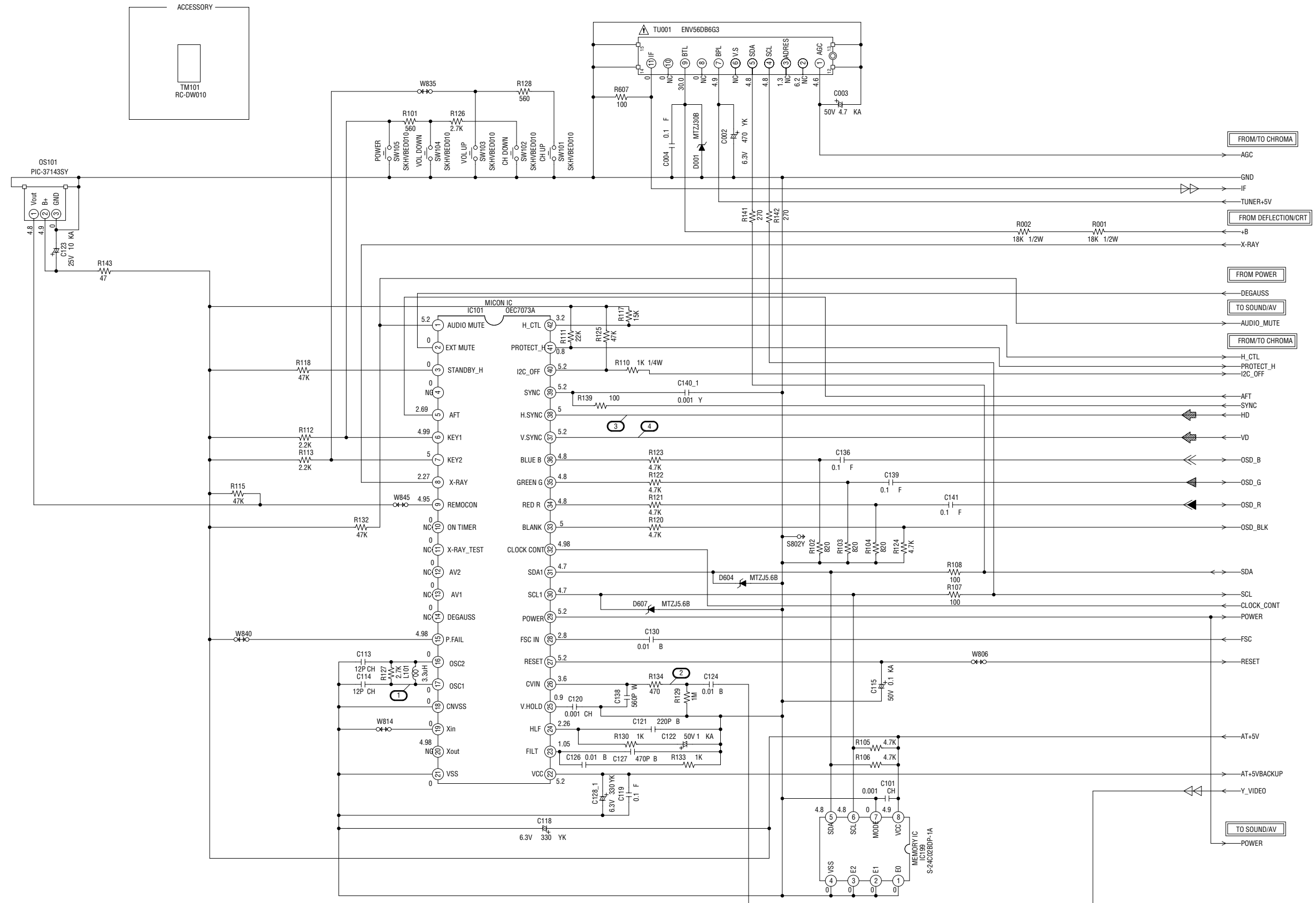
PRINTED CIRCUIT BOARDS  
MAIN/CRT (INSERTED PARTS)  
SOLDER SIDE



**PRINTED CIRCUIT BOARDS  
 MAIN/CRT (CHIP MOUNTED PARTS)  
 SOLDER SIDE**



# MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



- FROM/TO CHROMA
- AGC
- GND
- IF
- TUNER+5V
- FROM DEFLECTION/CRT
- +B
- X-RAY
- FROM POWER
- DEGAUSS
- TO SOUND/AV
- AUDIO\_MUTE
- FROM/TO CHROMA
- H\_CTL
- PROTECT\_H
- I2C\_OFF
- AFT
- SYNC
- HD
- VD
- OSD\_B
- OSD\_G
- OSD\_R
- OSD\_BLK
- SDA
- SCL
- CLOCK\_CONT
- POWER
- FSC
- RESET
- AT+5V
- AT+5VBACKUP
- Y\_VIDEO
- TO SOUND/AV
- POWER

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

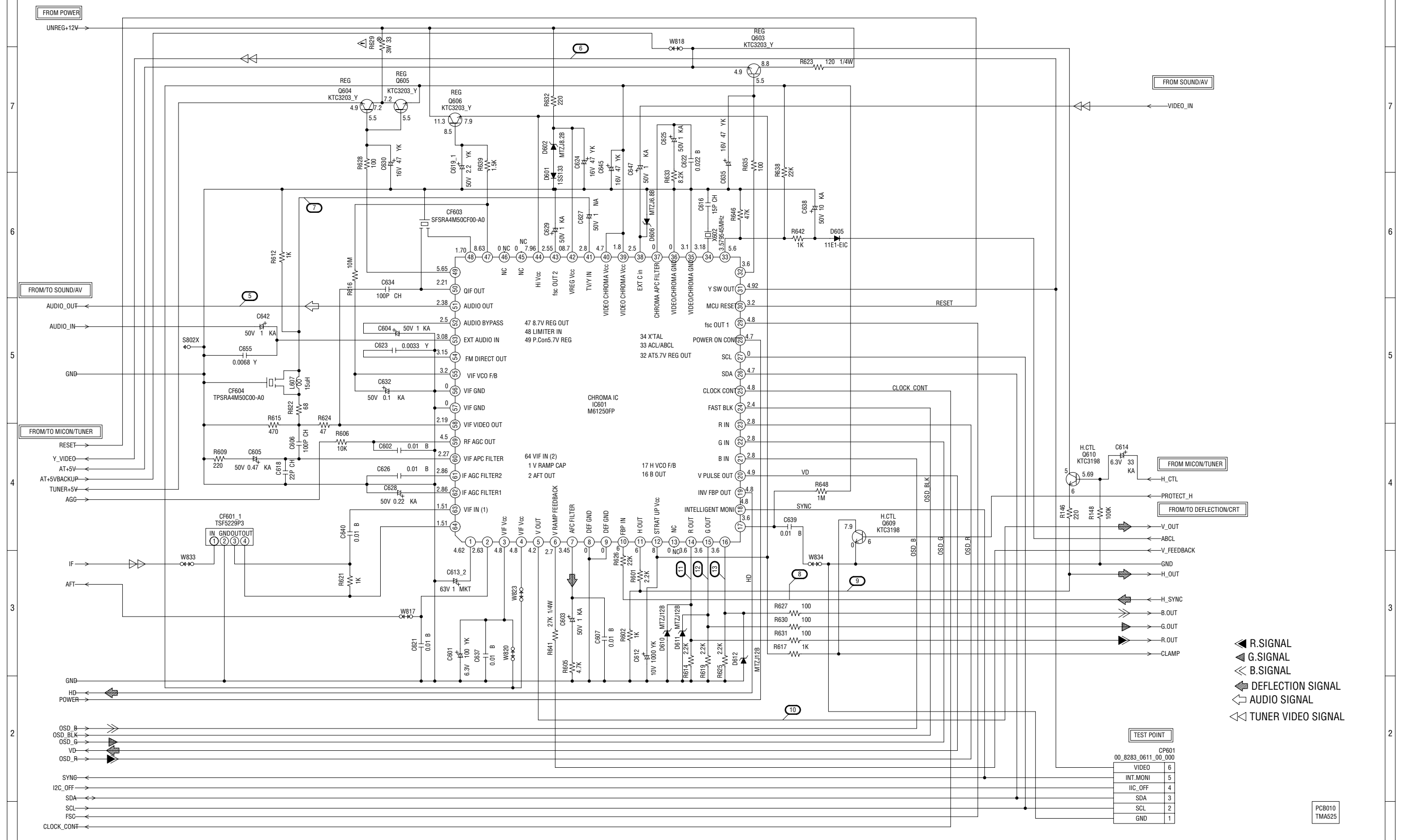
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIÈCES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

- DEFLECTION SIGNAL
- TUNER VIDEO SIGNAL
- R.SIGNAL
- G.SIGNAL
- B.SIGNAL

PCB010  
TMA525

# CHROMA SCHEMATIC DIAGRAM (MAIN PCB)



- ◀ R SIGNAL
- ◀ G SIGNAL
- ◀ B SIGNAL
- ◀ DEFLECTION SIGNAL
- ◀ AUDIO SIGNAL
- ◀ TUNER VIDEO SIGNAL

TEST POINT	
VIDEO	6
INT_MONI	5
IIC_OFF	4
SDA	3
SCL	2
GND	1

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.  
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

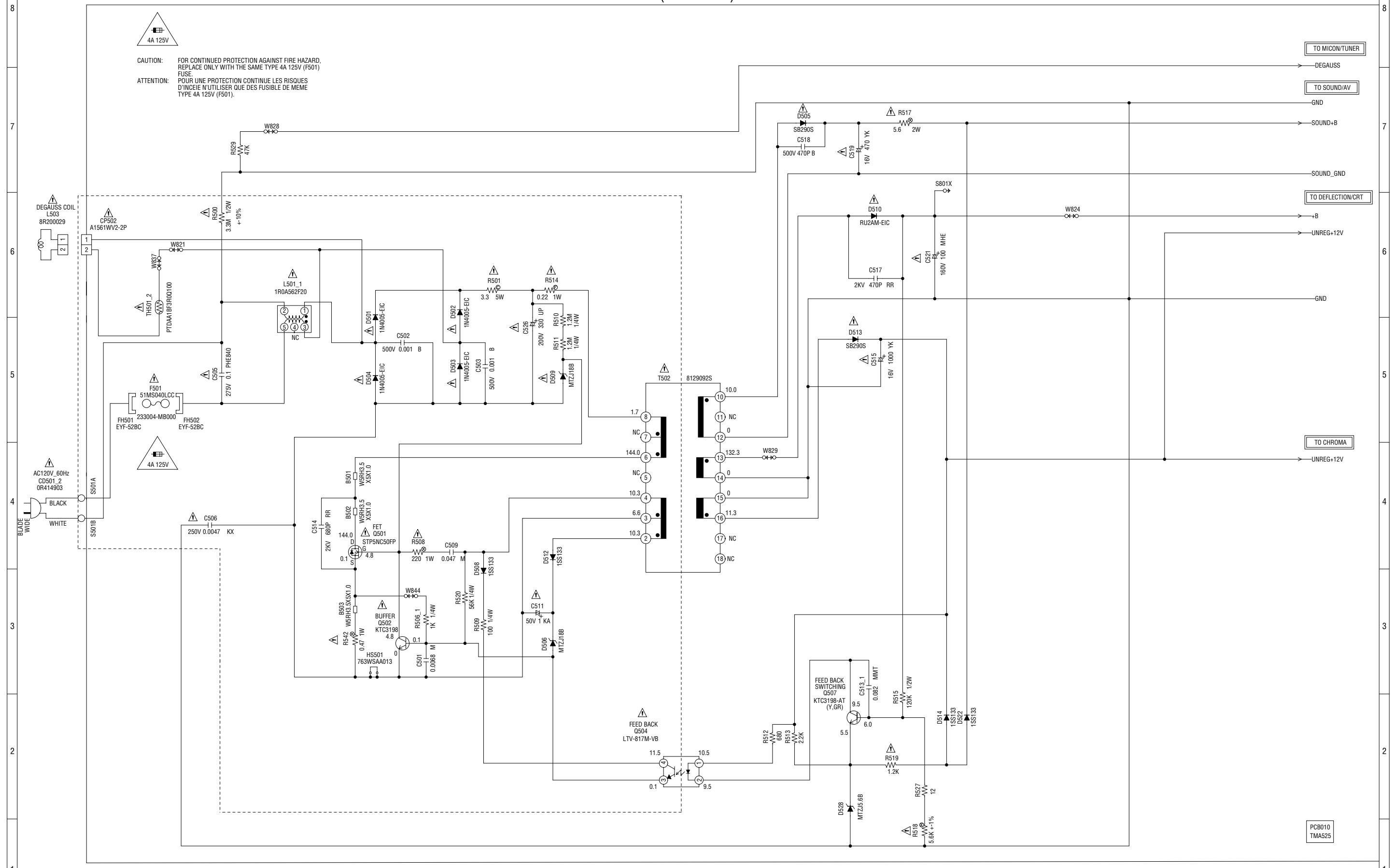
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGÉREUSES AN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLS DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

CP601 00_8283_0611_00_000	
VIDEO	6
INT_MONI	5
IIC_OFF	4
SDA	3
SCL	2
GND	1

PCB010  
TMA525

# POWER SCHEMATIC DIAGRAM (MAIN PCB)



**CAUTION:** FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 4A 125V (F501) FUSE.

**ATTENTION:** POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MEME TYPE 4A 125V (F501).

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

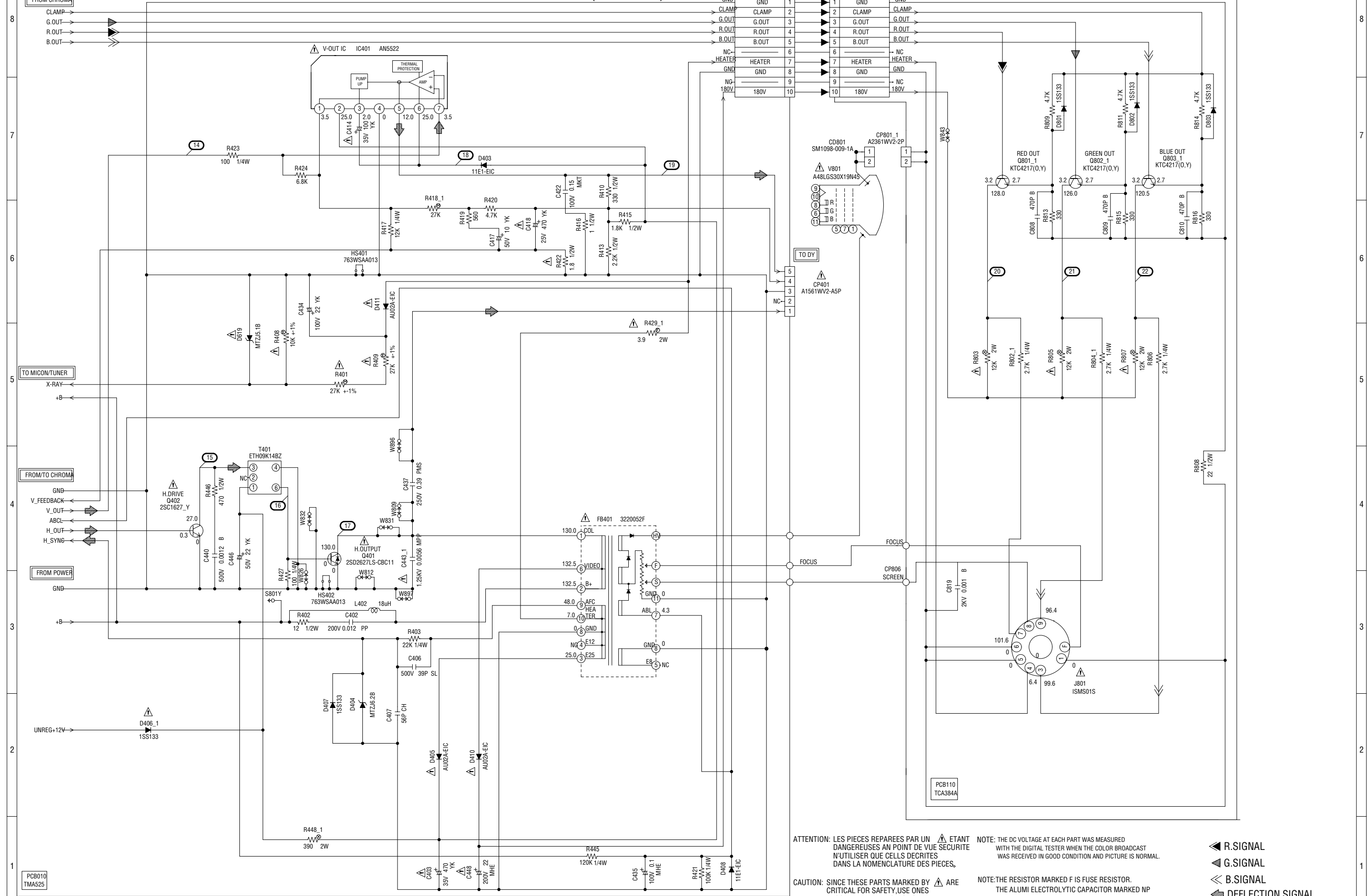
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

# DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)



ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

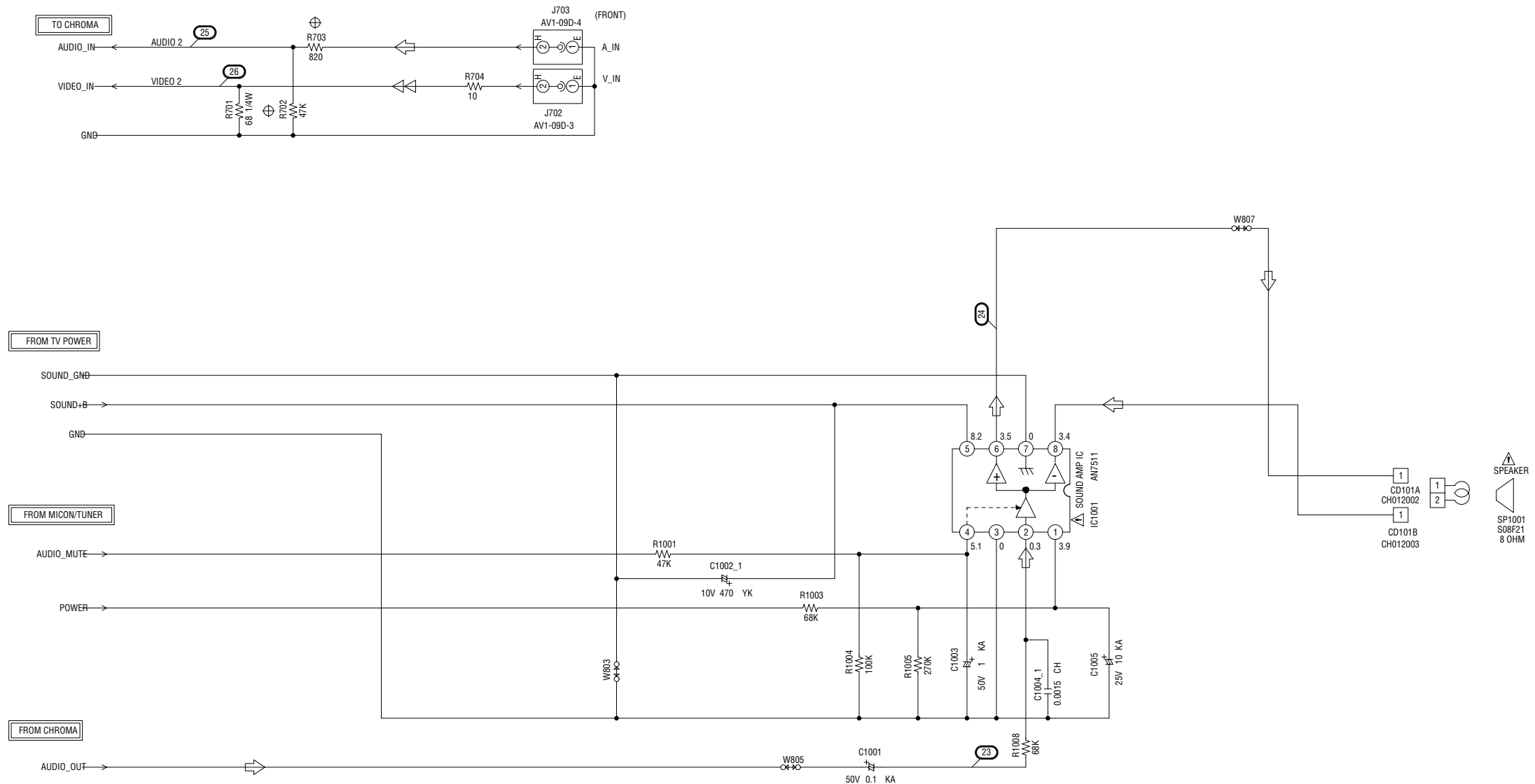
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

R.SIGNAL  
 G.SIGNAL  
 B.SIGNAL  
 DEFLECTION SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.



# SOUND/AV SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

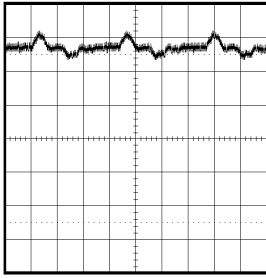
ATTENTION: LES PIECES REPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

TUNER VIDEO SIGNAL  
 AUDIO SIGNAL

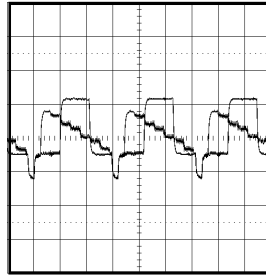
PC8010  
TMA525

# WAVEFORMS

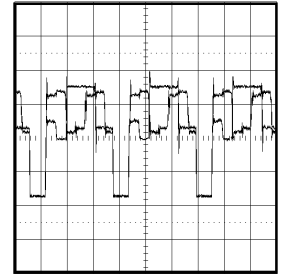
## MICON/TUNER



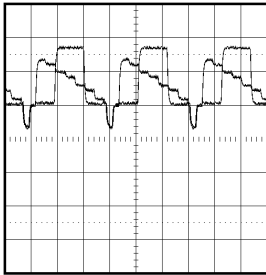
① 200mV 5ms/div



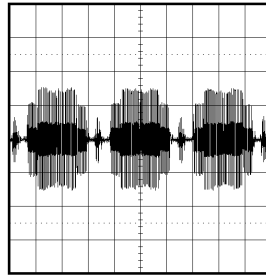
⑥ 0.5V 20μs/div



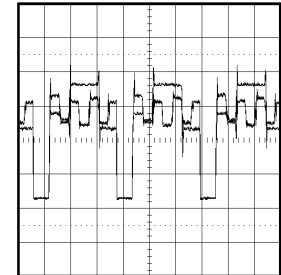
⑪ 1V 20μs/div



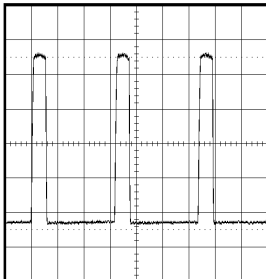
② 0.5V 20μs/div



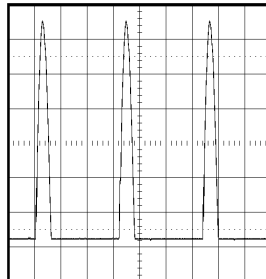
⑦ 200mV 20μs/div



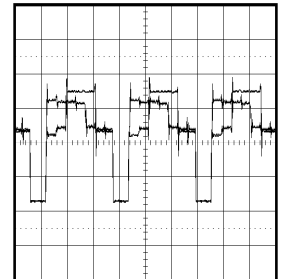
⑫ 1V 20μs/div



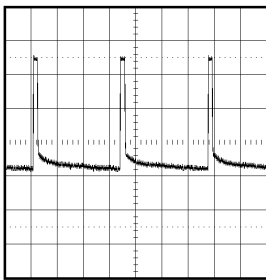
③ 200mV 20μs/div



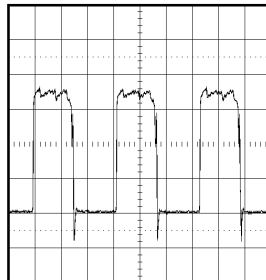
⑧ 20V 20μs/div



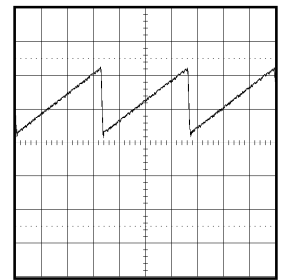
⑬ 1V 20μs/div



④ 200mV 5ms/div

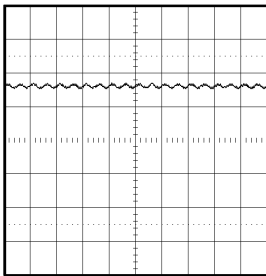


⑨ 200mV 20μs/div

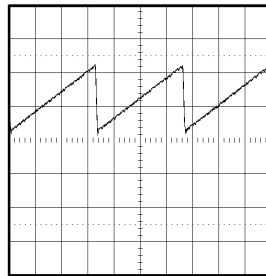


⑭ 0.5V 5ms/div

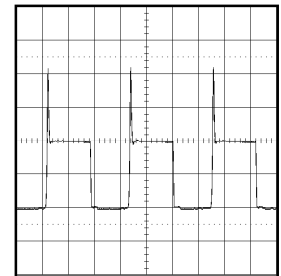
## CHROMA



⑤ 0.5V 2ms/div



⑩ 0.5V 5ms/div

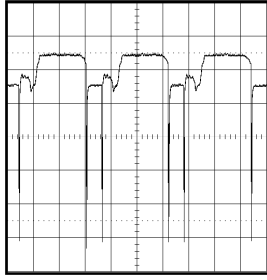


⑮ 20V 20μs/div

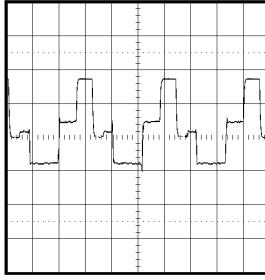
## DEFLECTION/CRT

**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

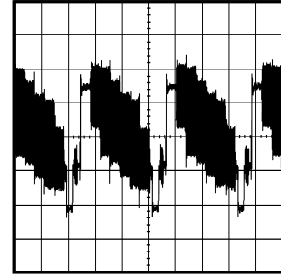
# WAVEFORMS



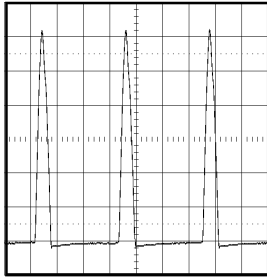
①⑥ 2V 20 $\mu$ s/div



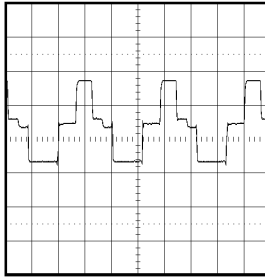
②① 50V 20 $\mu$ s/div



②⑥ 500mV 20 $\mu$ s/div

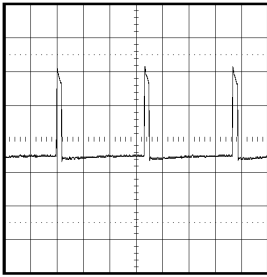


①⑦ 200V 20 $\mu$ s/div

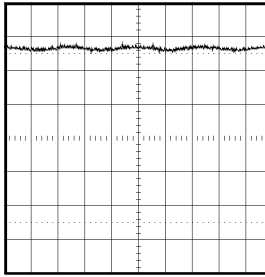


②② 50V 20 $\mu$ s/div

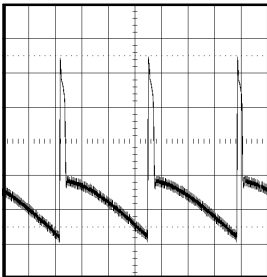
## SOUND/AV



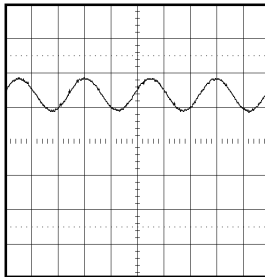
①⑧ 10V 5ms/div



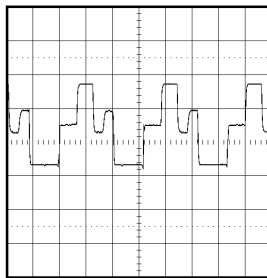
②③ 0.5V 1ms/div



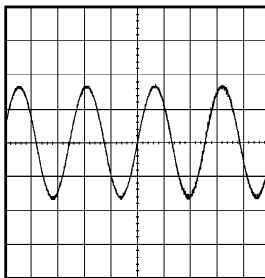
①⑨ 10V 5ms/div



②④ 1V 1ms/div



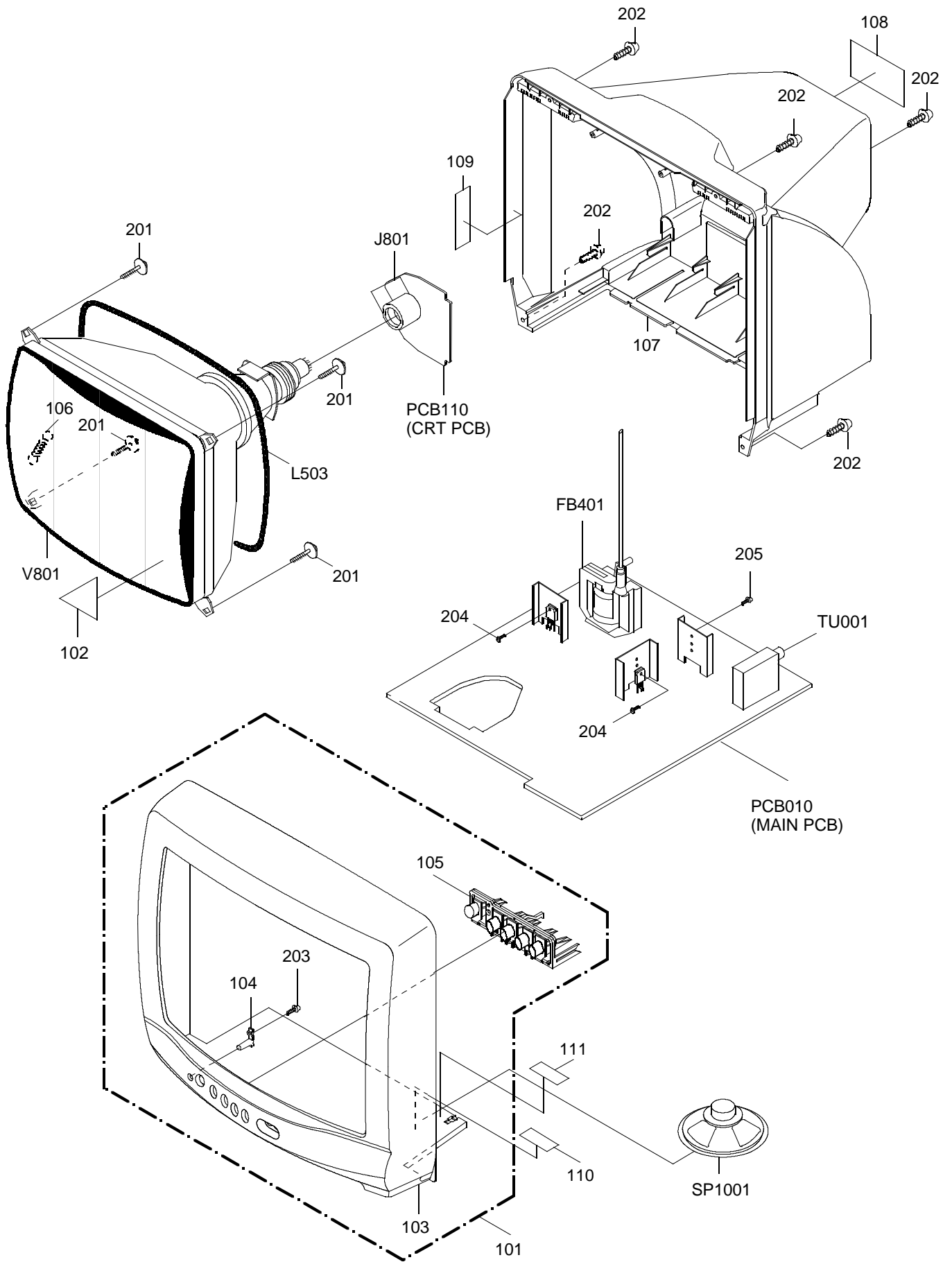
②⑦ 50V 20 $\mu$ s/div



②⑤ 500mV 1ms/div

**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# MECHANICAL EXPLODED VIEW



## MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
101	A3L211C720	CABINET,FRONT ASSY
102	723000B325	FILM,DECORATION
103	701WPJB715	CABINET,FRONT
104	713WPAA047	GUIDE ,REMOCON
105	735WPAA417	BUTTON,FRAME
106	741WUA0019	SPRING,EARTH
107	702WPAA183	CABINET,BACK
108	722552A019	SHEET,RATING
109	7220001119	SHEET,CSA WARNING
110	7220001107	SHEET,HWC
111	7230006818	SHEET,CAUTION
201	8121F50B84	SCREW,TAPPING(B0)      FAI20 FLAT      5x28
202	8117540A64	SCREW,TAPPING(B0)      TRUSS              4x16
203	8110630A04	SCREW,TAP TITE(P)      BRAZIER            3x10
204	8109I30A04	SCREW,TAP TITE(B)      WH7                3x10
205	8109630802	SCREW,TAP TITE(B)      BRAZIER            3x8
---	791WHAA017	LAMIFILM BAG
---	792WHAA040	PACKAGE, TOP
---	792WHAA041	PACKAGE,BOTTOM
---	793WCDB237	GIFT BOX
---	JB5K0200	POLYBAG,INSTRUCTION
---	J3L10502	WARRANTY SHEET
---	J3L21101	INSTRUCTION BOOK
---	A3L211C975	INSTRUCTION BOOK KIT

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>RESISTORS</b>					
R148	R00106104J	RC			100K OHM 1/6W
	R001T6104J	RC			100K OHM 1/6W
△ R401	R4X5T6273F	R,METAL			27K OHM 1/6W
△ R409	R4X5T6273F	R,METAL			27K OHM 1/6W
△ R429	R6558A3R9J	R,FUSE			3.9 OHM 2W
R448	R3X18A391J	R,METAL OXIDE			390 OHM 2W
△ R500	R0G3K2335K	RC			3.3M OHM 1/2W
△ R501	R5Y2CD3R3J	R,CEMENT			3.3 OHM 5W
R508	R3X181221J	R,METAL OXIDE			220 OHM 1W
R514	R63581R22J	R,FUSE			0.22 OHM 1W
△ R515	R002T2124J	RC			120K OHM 1/2W
△ R517	R3X28A5R6J	R,METAL OXIDE			5.6 OHM 2W
△ R518	R4X5T6562F	R,METAL			5.6K OHM 1/6W
△ R519	R001T6122J	RC			1.2K OHM 1/6W
△ R542	R3X181R47J	R,METAL OXIDE			0.47 OHM 1W
△ R629	R3X28B330J	R,METAL OXIDE			33 OHM 3W
△ R641	R002T4273J	RC			27K OHM 1/4W
△ R803	R3X18A123J	R,METAL OXIDE			12K OHM 2W
△ R805	R3X18A123J	R,METAL OXIDE			12K OHM 2W
△ R807	R3X18A123J	R,METAL OXIDE			12K OHM 2W
<b>DIODES</b>					
	D97U03001B	DIODE,ZENER			MTZJ30B T-77
D403	D2WT011E10	DIODE SILICON			11E1-EIC
	D28T11E2N2	DIODE SILICON			11E2N-TA1B2
D404	D97U06R21B	DIODE,ZENER			MTZJ6.2B T-77
△ D405	D2WTAU02A0	DIODE SILICON			AU02A-EIC
D406	D1VT001330	DIODE,SILICON			1SS133T-77
D407	D1VT001330	DIODE,SILICON			1SS133T-77
D408	D2WT011E10	DIODE SILICON			11E1-EIC
	D28T11E2N2	DIODE SILICON			11E2N-TA1B2
△ D410	D2WTAU02A0	DIODE SILICON			AU02A-EIC
△ D411	D2WTAU02A0	DIODE SILICON			AU02A-EIC
△ D501	D2WXN40050	DIODE SILICON			1N4005-EIC
△ D502	D2WXN40050	DIODE SILICON			1N4005-EIC
△ D503	D2WXN40050	DIODE SILICON			1N4005-EIC
△ D504	D2WXN40050	DIODE SILICON			1N4005-EIC
△ D505	D2WXB290S0	DIODE SILICON			SB290S
D506	D97U01801B	DIODE,ZENER			MTZJ18B T-77
D508	D1VT001330	DIODE,SILICON			1SS133T-77
△ D509	D97U01801B	DIODE,ZENER			MTZJ18B T-77
△ D510	D2WXRU2AM0	DIODE SILICON			RU2AM-EIC
D512	D1VT001330	DIODE,SILICON			1SS133T-77
△ D513	D2WXB290S0	DIODE SILICON			SB290S
D514	D1VT001330	DIODE,SILICON			1SS133T-77
△ D522	D1VT001330	DIODE,SILICON			1SS133T-77
D528	D97U05R61B	DIODE,ZENER			MTZJ5.6B T-77
D601	D1VT001330	DIODE,SILICON			1SS133T-77
D602	D97U08R21B	DIODE,ZENER			MTZJ8.2B T-77
D604	D97U05R61B	DIODE,ZENER			MTZJ5.6B T-77
D605	D2WT011E10	DIODE SILICON			11E1-EIC
<b>DIODES</b>					
	D28T11E2N2	DIODE SILICON			11E2N-TA1B2
D606	D97U06R81B	DIODE,ZENER			MTZJ6.8B T-77
D607	D97U05R61B	DIODE,ZENER			MTZJ5.6B T-77
D610	D97U01201B	DIODE,ZENER			MTZJ12B T-77
D611	D97U01201B	DIODE,ZENER			MTZJ12B T-77
D612	D97U01201B	DIODE,ZENER			MTZJ12B T-77
D619	D97U05R11B	DIODE,ZENER			MTZJ5.1B T-77
D801	D1VT001330	DIODE,SILICON			1SS133T-77
D802	D1VT001330	DIODE,SILICON			1SS133T-77
D803	D1VT001330	DIODE,SILICON			1SS133T-77
<b>ICS</b>					
	IC101	I56F07073A	IC		OEC7073A
	IC199	A3L211C015	IC		S-24C02BDP-1A
△ IC401	I01TD55220	IC			AN5522
IC601	I06FC61250	IC			M61250FP
IC1001	I01DP75110	IC			AN7511
<b>TRANSISTORS</b>					
△ Q401	TD30026270	TRANSISTOR SILICON			2SD2627LS-CBC11
△ Q402	TC5T01627Y	TRANSISTOR SILICON			2SC1627_Y(TPE2)
Q501	TJXG5NC500	FET			STP5NC50FP
△ Q502	TCATC31980	TRANSISTOR,SILICON			KTC3198-AT(Y,GR)
△ Q504	0002E00610	PHOTO COUPLER			LTV-817M-VB
Q507	TCATC31980	TRANSISTOR,SILICON			KTC3198-AT(Y,GR)
Q603	TCAT032034	TRANSISTOR, SILICON			KTC3203_Y-AT
Q604	TCAT032034	TRANSISTOR, SILICON			KTC3203_Y-AT
Q605	TCAT032034	TRANSISTOR, SILICON			KTC3203_Y-AT
Q606	TCAT032034	TRANSISTOR, SILICON			KTC3203_Y-AT
Q609	TCATC31980	TRANSISTOR,SILICON			KTC3198-AT(Y,GR)
Q610	TCATC31980	TRANSISTOR,SILICON			KTC3198-AT(Y,GR)
Q801	TCA0042170	TRANSISTOR SILICON			KTC4217(O,Y)
Q802	TCA0042170	TRANSISTOR SILICON			KTC4217(O,Y)
Q803	TCA0042170	TRANSISTOR SILICON			KTC4217(O,Y)
<b>COILS &amp; TRANSFORMERS</b>					
	L101	021LA63R3K	COIL		3.3 UH
	L402	02186G180M	COIL		18 UH
△ L501	029T000104	COIL,LINE FILTER			1R0A562F20
△ L503	028R200029	COIL,DEGAUSS			8R200029
L607	021LA6150K	COIL			15 UH
T401	045009003J	TRANS,HORIZONTAL DRIVE			ETH09K14BZ
△ T502	048129092S	TRANSFORMER,SWITCHING			8129092S
<b>JACKS</b>					
J702	060Q401077	RCA JACK			AV1-09D-3
J703	060Q401076	RCA JACK			AV1-09D-4
△ J801	066F120018	SOCKET,CATHODE RAY TUBE			ISMS01S
<b>SWITCHES</b>					
SW101	0504201T31	SWITCH,TACT			SKHVBED010
SW102	0504201T31	SWITCH,TACT			SKHVBED010
SW103	0504201T31	SWITCH,TACT			SKHVBED010
SW104	0504201T31	SWITCH,TACT			SKHVBED010
SW105	0504201T31	SWITCH,TACT			SKHVBED010
<b>P.C.BOARD ASSEMBLIES</b>					
PCB010	A3L211C010	PCB ASSY			TMA525A
PCB110	A3L208C110	PCB ASSY			TCA384A
<b>MISCELLANEOUS</b>					
B501	024HT03553	CORE,BEADS			W5RH3.5X5X1.0
B502	024HT03553	CORE,BEADS			W5RH3.5X5X1.0
B503	024HT03553	CORE,BEADS			W5RH3.5X5X1.0
△ CD501	120R414903	CORD AC BUSH			0R414903
CD801	06CU82039A	CORD CONNECTOR			SM1098-009-1A
CF601	1029045R7G	FILTER,SAW			TSF5229P3
CF603	1012T4R520	FILTER,CERAMIC			SFSRA4M50CF00-A0
CF604	1012T4R519	FILTER,CERAMIC TRAP			TPSRA4M50C00-A0
CP401	069S450089	CONNECTOR PCB SIDE			A1561WV2-A5P
CP502	069S420110	CONNECTOR PCB SIDE			A1561WV2-2P
CP601	069E260659	CONNECTOR PCB SIDE			00_8283_0611_00_000
	0694260139	CONNECTOR PCB SIDE			173979-6
	0694260669	CONNECTOR PCB SIDE			175489-6
CP801	069S320010	CONNECTOR PCB SIDE			A2361WV2-2P
CD101A	06CH012002	CORD CONNECTOR			CH012002
CD101B	06CH012003	CORD CONNECTOR			CH012003
CP802A	067N010039	WIRE HOLDER			9253_010_000_000
	067U010049	WIRE HOLDER			B2013H02-10P
CP802B	067N010039	WIRE HOLDER			9253_010_000_000
	067U010049	WIRE HOLDER			B2013H02-10P
EL002	124120301A	EYE LET			XRY20X30BD
△ F501	081PC04004	FUSE			51MS040LCC
△ FB401	043220052F	TRANSFORMER,FLYBACK			3220052F

## ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
<b>MISCELLANEOUS</b>			
FH501	06710T0006	HOLDER,FUSE	EYF-52BC
FH502	06710T0006	HOLDER,FUSE	EYF-52BC
OS101	077Q037003	REMOTE RECEIVER	PIC-37143SY
S101	WHL6032038	FLAT CABLE	AWG26 10C BLACK 320MM
△ SP1001	070Y132018	SPEAKER	S08F21
TH501	DF20A3R0Q0	DEGAUSS ELEMENT	PTDAA1BF3R0Q100
TM101	076N0DW010	TRANSMITTER	RC-DW010
△ TU001	0145100059	TUNER,VHF-UHF	ENV56DB6G3
△ V801	098Y200480	COLOR PICTURE TUBE W/DY	A48LGS30X19N45
X602	100CT3R505	CRYSTAL	HC-49/C

### RESISTOR

RC.....CARBON RESISTOR

### CAPACITORS

CC..... CERAMIC CAPACITOR  
 CE.....ALUMI ELECTROLYTIC CAPACITOR  
 CP.....POLYESTER CAPACITOR  
 CPP..... POLYPROPYLENE CAPACITOR  
 CPL.....PLASTIC CAPACITOR  
 CMP..... METAL POLYESTER CAPACITOR  
 CMPL..... METAL PLASTIC CAPACITOR  
 CMPP..... METAL POLYPROPYLENE CAPACITOR

SPEC.NO.	M3L2-11C
O/R NO.	W223003



# DURABRAND

## DBTV1902

# SERVICE MANUAL

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**COLOR TELEVISION RECEIVER**

**REVISION 1  
MFR'S VERSION A**

MFR'S VERSION	CRT
A	A48AKH13X04
B	A48LGS30X19N45

# Change of CRT

## ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	MFR'S VERSION A		MFR'S VERSION B	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
C444	P4N8FJ102H	CMPP 0.001 UF 1.25KV		
PCB010	A3L217B010	MAIN PCB ASS'Y (VERSION A) TMA525A	A3L211C010	MAIN PCB ASS'Y (VERSION B) TMA525A
 V801	098Q200490	CRT W/DY A48AKH13X04	098Y200480	COLOR PICTURE TUBE W/DY A48LGS30X19N45

MAIN PCB's are not interchangeable.

SPEC.NO.	M3L2-17B
O/R NO.	W2X3015